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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,547	08/19/2003	Bradley M. Mells	8967-90441	4274

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EXAMINER

PHAN, HANH

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/643,547	<b>Applicant(s)</b> MELLS, BRADLEY M.	
	<b>Examiner</b> Hanh Phan	<b>Art Unit</b> 2633	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/20/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. In claim 8, lines 15, 16 and 24, the phrases "**below (or above)**" and "**upper (or lower)**" should be changed to --below or above and upper or lower--.
2. In claim 8, lines 17 and 19, the phrases "a heterodyne beat note" and "filtering the heterodyne beat note" should be changed to --a heterodyne beat noise and filtering the heterodyne beat noise--.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuwahara et al (US Patent No. 5,003,626).

Regarding claims 5-7, referring to Figure 2, Kuwahara discloses a method of using a local oscillator laser for heterodyne detection and for eliminating polarization dependent loss by compensating for polarization mode dispersion in the single mode fiber transmission link comprising the steps of:

separating two orthogonal linear polarization optical components of an input optical signal utilizing a polarizing beamsplitter, (i.e., a polarizing

Art Unit: 2633

beamsplitter 21, Fig. 2) the input optical signal arriving at a first port of the polarizing beamsplitter;

introducing a local oscillator laser (i.e., local oscillator laser 24, Fig. 2) into a second input port of the polarizing beamsplitter;

providing two polarization maintaining optical fibers from the polarizing beamsplitter through a polarization maintaining optical coupler (i.e., coupler 26, Fig. 2) said two optical fibers having substantially a 50% coupling ratio within the optical coupler and a known optical length such that corresponding optical path lengths of the two fibers from the input to the polarizing beamsplitter to a beginning of a coupling regime of the optical coupler are equal;

aligning the two orthogonal linear polarization outputs within the two polarization maintaining optical fibers to a common polarization axis by rotating (i.e., half plate 25, Fig. 2) one of the fibers through an angle of ninety degrees so that the orthogonal polarization outputs of the polarizing beam splitter excite the same polarization axis of each polarization maintaining fiber; and

aligning each of the polarization maintaining fiber outputs from the polarization maintaining fiber coupler to independent photodiode based receivers (i.e., receivers 27 and 28, Fig. 2)(col. 3, lines 20-63).

5. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Olshansky (US Patent No. 5,101,450).

Regarding claim 8, referring to Figures 1-3 , 7 and 19, Olshansky discloses a method of receiving up to four sets of independent signals on each

Art Unit: 2633

microwave subcarrier frequency carried by an optical transmission signal, such method comprising the steps of:

modulating the independent communication signals on upper and lower sidebands of two independent microwave signals of the same frequency (Figs. 1-3);

modulating the two independent microwave signals on the upper and lower sidebands of the optical signal respectively (Figs. 1-3);

introducing a local oscillator laser (i.e., a tunable LO laser 112, Fig. 7) in a correct polarization state to eliminate polarization dependent loss relative to a received optical signal;

tuning the local oscillator laser to the wavelength below or above the wavelength of the optical carrier to select the upper or lower optical sideband creating a heterodyne beat noise at an intermediate frequency (Fig. 7);

filtering the heterodyne beat noise utilizing a bandpass filter with a bandwidth suitable for selecting an individual microwave sideband (Figs. 7 and 19);

making a center frequency of the bandpass filter offset from the intermediate frequency so that the center frequency corresponds to the upper or lower microwave sideband relative to the selected microwave sideband (Figs. 7 and 19); and

mixing the filtered intermediate frequency output with a local oscillator frequency to shift the center frequency of the filtered microwave sideband to the

Art Unit: 2633

correct frequency for propagation over a downstream network element (Figs. 7 and 19, col. 8, lines 9-67, col. 14, lines 58-67 and col. 15, lines 1-29).

**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



Hanh Phan

08/20/2004

Best Available Copy